CLAIMS

What is claimed is:

1. A roller system for flattening irregularly shaped and bent pieces of scrap sheet metal comprising:

a pair of cylindrical, closely arranged, parallel rollers having longitudinally directed, parallel axes of rotation, said rollers forming a converging nip between them, with the nip having a wide entry opening for receiving pieces of scrap sheet metal placed in the nip and a narrow gap exit opening between the rollers for squeezing and flattening the pieces;

said rollers each being formed of curved metal sheets assembled into a cylindrical shape to provide cylindrical exterior surfaces;

a series of curved, hard steel, liner plates conforming to the curvatures of, and overlying the cylindrical surfaces of each of said rollers and being rigidly secured to said rollers;

the plates having longitudinally directed opposite ends and the plates, on each roller, being arranged in end-to-end relationship to form on each plate a leading edge and a trailing edge corresponding to the directions of rotations of the respective rollers;

said leading edges being approximately radially oriented relative to the center of curvatures of the curved surfaces of the rollers and being substantially of the same thickness as their respective plates;

said trailing edges being chamfered so as to form together with their adjacent leading edges approximately triangular in cross-section grooves extending longitudinally along the exterior surface of the plates of the respective rollers;

whereby pieces of scrap sheet metal placed into the wide entry opening of the nip tend to be moved towards the narrow gap by the leading edges of the respective grooves.

2. A roller system for flattening irregularly shaped pieces of scrap metal as defined in Claim 1, and said roller axes being substantially horizontal so that said converging nip receives scrap pieces moving downwardly into the entry opening of the nip and exiting between the rollers through the narrow gap.

3. A roller system as defined in Claim 2, and said liner plates overlapping and covering the exterior surfaces of the rollers and being formed of a substantially harder, less bendable metal material than the metal sheets which form the cylindrical rollers.

4. A roller system as defined in Claim 3, and each of said rollers being of a diameter of at least roughly six feet and being spaced apart sufficiently to compress and substantially flatten irregularly shaped sheet metal pieces moved through the narrow gap of the nip, with the flattened scrap pieces dropping downwardly from the nip for collection.

5. A roller system as defined in Claim 4, and the axis of one of the rollers being elevated relative to the axis of the other roller so that a plane bisecting the converging nip is angled relative to the vertical.

6. A roller system as defined in Claim 5, and including a chute for transporting said pieces of scrap sheet metal into the nip, said chute having a surface upon which the pieces may slide into the nip, with the chute surface being arranged at an acute angle to the vertical for sloping downwardly at an angle relative to a vertical plane which includes the horizontal axis of the roller having the elevated axis.

7. A roller system as defined in Claim 2, and said liner plates being releasibly secured to their respective rollers whereby said plates may be removed and replaced when the plates become worn or damaged.

8. A roller system as defined in Claim 2, and at axes of at least one of the rollers being supported upon moveable support members which are moveable towards and away from the opposite roller for adjusting the width of the gap between the rollers.